

Shp Nov 10

Work Order ID 75880

\*75880\*

November-02-11 7:47:50 AM

Item ID: D212-664-107

Accept

\*N9000040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Crosstube Low Standard Fwd

Start Date: 01/11/2011 Start Qty: 1.00 \*1\*

Cust Item ID:

Required Date: 11/11/2011 Req'd Qty: 1.00 \*1\*

Customer:

Reference:

Approvals: Process Plan: M.C.J. Date: 11/11/02

Tooling:

Date:

Run Start \*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D212-664-147	Rev B (DEO).

100 0.00

\*100\*

DC

Document Control

DOCUMENT CONTROL

Memo

Photocopy bluefile and create labels as per PPP D212-664-107 CHG002

\* include DSI 9582 \*

Svlulic  
003 per DSI 9582  
see attached

11-11-14

110 0.00

\*110\*

Packaging

Packaging

Packaging

Memo

0.00

DP

11-11-5

120 0.00

\*120\*

CNC Bend 2

CNC Alpha 160 Bender

BENDING MACHINE - CROSSTUBES

Memo

Bend tube as per Dwg D212-664-107 using CNC bender program 212-107

DP

11-11-5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 75880****\*75880\***

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November-02-11 7:47:50 AM

Item ID: D212-664-107

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Crosstube Low Standard Fwd

Start Date: 01/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 11/11/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130

QC15- Crosstube Dimensional Check

0.00

**\*130\***

QC

Memo

0.00

Quality Control

① B 11-11-05

140

Crosstubes

0.00

**\*140\***

Crosstubes

Memo

0.00

Crosstubes

1-Cut tube as per inspection dwg and deburr ends. \*\*\*ensure saw is square\*\*\*

2-Position cuffs on tube ensure proper positioning

3-Drill tube as per dwg using DT8577 location #7 & # 212 ULF using jig  
DT8548 and DT8549 as per QSI 10

4-Transfer drill rivet holes from cuff into tube.

5-Identify cuff position and Batch # on each and identify tube as per dwg D212-  
664-107.

6- Inspect surface damage

7- Deburr and realodine cuff.

2X  
11-11-07

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Cust Item ID:

Required Date: 11/11/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals:

Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

150

Crosstubes Chemical Conversion

0.00

**\*150\***

HandFXtube

Memo

0.00

Hand Finishing Crosstubes

ET 11-11-07

160

QC3- Inspect Part Finish

0.00

**\*160\***

QC

Memo

0.00

Quality Control

Sululog

170

QC5- Inspect part completeness to step on W/O

0.00

**\*170\***

QC

Memo

0.00

Quality Control

Sululog

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Required Date: 11/11/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	Outsource process - NDT per QSI038 4.1	0.00							
<b>*180*</b>									
Outsource2	Memo	0.00							
Outsource process - NDT	Liquid Penetrant Inspection as per QSI 038Or Issue P/O: 156124 PI as per ASTM 1417 Level 2 Attach copy of NDT results to work order								
190	Packaging	0.00							
<b>*190*</b>									
Packaging	Memo	0.00							
Packaging	Ensure copy of NDT results attached to work order.								
200	QC5- Inspect part completeness to step on W/O	0.00							
<b>*200*</b>									
QC	Memo	0.00							
Quality Control	Inspect for damage & ensure results are as per Dwg D212-664-107								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Work Order ID 75880

**\*75880\***

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Revision ID:

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Item Name: Crosstube Low Standard Fwd

Start Date: 01/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 11/11/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	Crosstubes	0.00							
<b>*210*</b>									
Crosstubes	Memo	0.00							
Crosstubes	1-Rivet Cuffs as per Dwg D212-664-147. with Sika flex in Between tube & Cuff A/R SIKAFLEX -241/-291 BATCH: <del>M119</del> M119 399								
215	QC5- Inspect part completeness to step on W/O	0.00							
<b>*215*</b>									
QC	Memo	0.00							
Quality Control									

*Sululy*

*Pto*

*AS 11 - 11 - 10*

W/O:		75880 WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D22-664-107 PAR #: \_\_\_\_\_ Fault Category: X-tube ass NCR: Yes No DQA: u Date: 11/11/15  
 Resolution: no work Disposition: be work QA: N/C Closed: ck Date: 11/11/16

NCR: <u>11-984</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
<u>11/11/14</u>	<u>#210</u>	<u>wrong length of parts were used. -5 when longer ones too short.</u>	<u>JP</u> <u>11.11.14</u> <u>PS/042</u>	<u>Remove all parts. and use correct CR 3212-4-26-06 <del>Q11A</del> B 119510</u>	<u>JP</u> <u>11-11-14</u>	<u>S</u> <u>11/11/14</u>	<u>JP</u> <u>11.11.14</u> <u>PS/042</u>	<u>S</u> <u>11/11/14</u>

NOTE: Date & initial all entries

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Item Name: Crosstube Low Standard Fwd

Start Date: 01/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 11/11/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

220

0.00

**\*220\***

SprayPaint

SprayPaint

Memo

0.00

Spray Painting

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005 4.2

PRIME:

Start Time: 11:00

Finish Time: 12:00

PAINT:

Start Time: 1:30

Finish Time: 4:30

RT 11-11-10

230

QC14- Inspect Spray Paint

0.00

**\*230\***

QC

Memo

0.00

Quality Control

Wrap in plastic bag to protect from scratches

M 11-11-11 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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## Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 75880****\*75880\***

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November-02-11 7:47:50 AM

Item ID: D212-664-107

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**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Crosstube Low Standard Fwd

Start Date: 01/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 11/11/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
255	Pick Kit	0.00							
<b>*255*</b>									
Packaging	Memo	0.00							Sp 11-11-14
Packaging									
260	QC4- 100% Inspect kits for completeness	0.00							
<b>*260*</b>									
QC	Memo	0.00							tc
Quality Control									
270		0.00							
<b>*270*</b>									
Packaging	Packaging								11/11/14
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D212-664-107								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**Work Order ID 75880****\*75880\***

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November-02-11 7:47:50 AM

Item ID: D212-664-107

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Crosstube Low Standard Fwd

Start Date: 01/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 11/11/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

280

QC21- Final Inspection - Work Order Release

0.00

**\*280\***

QC

Memo

0.00

Quality Control

MF  
11-11-14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

November-02-11 7:47:58 AM

Page 1

Work Order ID: 75880

**\*75880\***

Parent Item: D212-664-107

**\*D212-664-107\***

Parent Item Name: Crosstube Low Standard Fwd

Start Date: 01/11/2011

Required Date: 11/11/2011

Start Qty: 1.00

Required Qty: 1.00

## Comments:

IPP Rev:A New Issue 07.09.12 EC verified by: JLM  
IPP Rev:B ECN 1100 08-01-11 DD verified by: EC  
IPP Rev:C Ecn 1121 08-02-25 DD Verified by:ec IPP Rev:D  
10.05.27 added pick kit DD verf:EC IPP Rev:E 11.10.17  
added SEQ 215 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D212-664-107TRN		Manufactured	No			140	Each	6.0000	1	1			

**\*D212-664-107TRN\***

Crosstube Turning Detail

\*\*

Location	Loc Qty	Loc Code
LG 75881	5	
74250	1	
74572	1	
75129	1	
75130	1	
75210	1	
LG046	1	
74249	1	

D3659-1

Manufactured No

220

Each

24.0000

2


2

**\*D3659-1\***

CUFF

\*\*

Location	Loc Qty	Loc Code
ST477	24	
67005	3	
74737	8	
75173	13	

①  11-11-5  
RT 11-11-07  
2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Page 2

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Parent Item: D212-664-107

**\*D212-664-107\***

Parent Item Name: Crosstube Low Standard Fwd

Start Date: 01/11/2011

Required Date: 11/11/2011

Start Qty: 1.00

Required Qty: 1.00

CR3212-4-06

Purchased

No

240

Each

466.0000

44

44

**\*CR3212-4-06\***

CHERRY RIVET

\*\*

M1108 AB H. 11. 11

## Location

## Loc Qty

## Loc Code

ST311

466

112492

18

112794

448

D3595-063-450

Manufactured

No

240

Each

178.7600

4

4

**\*D3595-063-450\***

RUBBER CUSHION

\*\*

M 11. 11. 11

## Location

## Loc Qty

## Loc Code

LG

81.76

67353

3

68893

6

70113

0.56

71354

0.2

74113

72

LG055

97

75597

97

MS21920-25

Purchased

No

240

Each

68.0000

4

4

**\*MS21920-25\***

Clamp(per MIL-DTL-8783C)

\*\*

M 11. 11. 11

## Location

## Loc Qty

## Loc Code

LG

62

113281

0

113282

0

118142

4

118183

8

119339

50

LG050

6

116264

2

117998

4

November-02-11 7:47:58 AM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**\*75880\***

Parent Item: D212-664-107

**\*D212-664-107\***

Parent Item Name: Crosstube Low Standard Fwd

Start Date: 01/11/2011

Required Date: 11/11/2011

Start Qty: 1.00

Required Qty: 1.00

D2893-1 Manufactured No

240 Each

3.0000

2

2

**\*D2893-1\***

2.75 Support

\*\*

B# 74768

Location

Loc Qty

Loc Code

LG052

3

72865

3

260

Each

13.0000

1

1

D3428-1

**\*D3428-1\***

Placard

\*\*

Location

Loc Qty

Loc Code

ST053

13

73498

13

260

Each

86.0000

4

4

AN6-35A

**\*AN6-35A\***

BOLT

\*\*

Location

Loc Qty

Loc Code

ST342

86

118422

6

118838

30

119449

50

260

Each

86.0000

4

4

AN6-36A

**\*AN6-36A\***

Bolt

\*\*

Location

Loc Qty

Loc Code

ST342

86

118422

6

118838

30

119449

50

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

November-02-11 7:47:58 AM

Work Order ID: 75880

**\*75880\***

Parent Item: D212-664-107

**\*D212-664-107\***

Parent Item Name: Crosstube Low Standard Fwd

Start Date: 01/11/2011

Required Date: 11/11/2011

Start Qty: 1.00

Required Qty: 1.00

MS21042L6

Purchased

No

260

Each

1,672.000

6 - 6

**\*MS21042L6\***

Nut

\*\*

SP

Location

Loc Qty

Loc Code

ST300

672

117677

25

118384

5

118927

48

118968

594

6x

ST518

1000

119075

1000

AN960JD616

NAS1149D0663J

Purchased

No

260

Each

0.0000

18 - 18

**\*AN960JD616\***

Washer

\*\*

m 119075 SP 11-11-14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

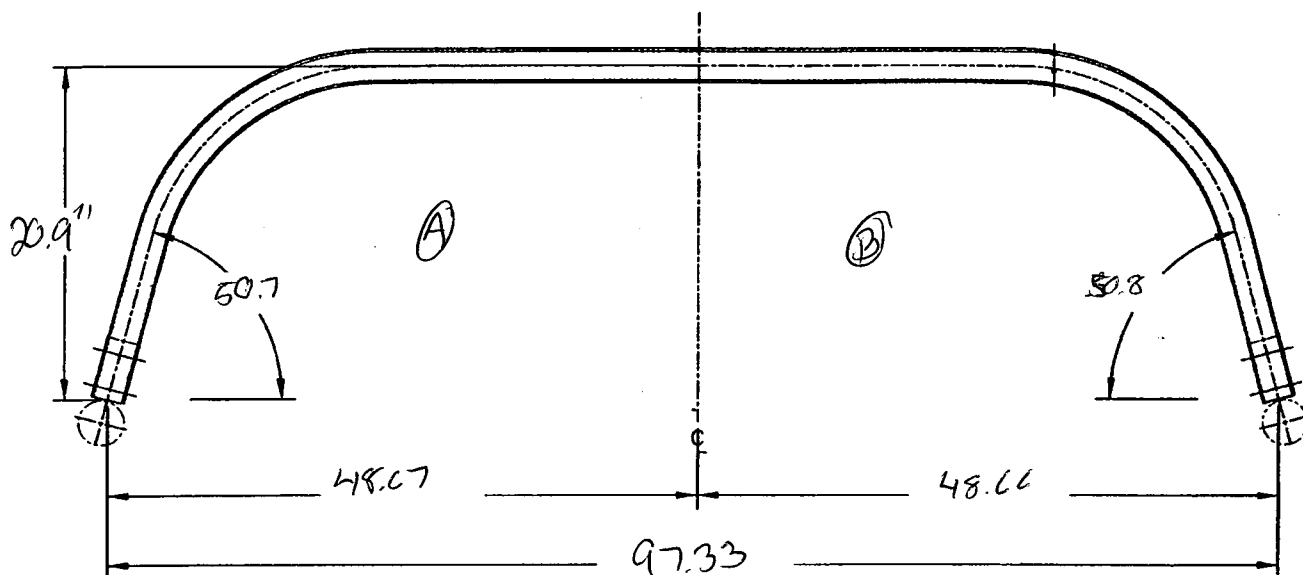
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b>	75880
<b>Description:</b> Crosstube Low Fwd (205/212/412)	<b>Part Number:</b>	D212-664-107
<b>Inspection Dwg:</b> D212-664-147	<b>Rev:</b> B	<b>Page 1 of 1</b>

Required Dimension	Min	Max
Height	20.79	21.05
1/2 Span	48.55	48.81
Angle	49	52
Total Span	97.1	97.62



①	9 Passes	Comments
②	8 Passes	
		Crushing 6.2%

QC15 Inspection	<i>[Signature]</i>
Date	11-11-05

Rev	Date	Change	Revised by	Approved
A	08.02.29	New Issue	KJ/JM	
B	10.01.21	Dwg Rev updated	KJ <i>[Signature]</i>	<i>[Signature]</i>

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Item	Qty -147	Qty -147B	Part Number	Description
1	X		D212-664-147	CROSSTUBE ASSEMBLY (205/212/412 LOW FWD)
2		X	D212-664-147B	CROSSTUBE ASSEMBLY (214 LOW FWD)
3	1	1	D6019-128	CROSSTUBE
4	2	2	D2893-1	SUPPORT
5	4	4	D3595-063-450	RUBBER CUSHION
6	2	2	D3659-1	CUFF
7	4	4	MS21920-25	CLAMP (OR MS21920-26)
8	44	44	CR3212-4-06	RIVET (OR M7885/3-4-06)
9	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
10	A/R	A/R	SIKAFLEX-241/-291	SEALANT (OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT)

#### GENERAL NOTES:

- MATERIAL: MANUFACTURED FROM D6019-128  
FINISHED LENGTH = 126.528 ± 0.020 (BEFORE BENDING/TRIMMING)
- FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- WEIGHT: D212-664-147 = 24.2 lbs (PER IIN-D212-664)  
D212-664-147B = 24.2 lbs (PER IIN-D212-664)
- PART IS SYMMETRIC ABOUT CENTERLINE.
- WHEN MACHINING TAPER, RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D., EXCEPT UP TO 10% IS ALLOWED IN AREA NOTED.
- LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2893-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT.
- EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.
- INSTALL D3659-1 CUFF AFTER CHEMICAL CONVERSION COAT BUT BEFORE PAINT, WITH A LAYER OF SIKAFLEX-241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT BETWEEN CUFF AND CROSSTUBE. SEAL EDGE OF CUFF TO ENSURE NO GAPS.
- TOUCH-UP HOLES WITH CHEMICAL CONVERSION COAT.

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 75880 M.C.J

11/11/02

DEO ATTACHED

Per ECN #11-614  
11.07.28  
UNDER REVIEW  
11/13/03

RELEASED  
2009-10-29  
JW

B	REVISE GENERAL NOTES/PART LIST: UPDATE TO CURRENT STANDARDS: ADD -147B (ZN C4-2, D4-2)	RF	09.09.30
A	NEW ISSUE	CP	07.07.07
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF	REV. B	
CHECKED	RF	D212-664-147	SHEET 1 OF 4
MFG. APPR.	RF	TITLE	SCALE
APPROVED	RF	CROSSTUBE (205/212/412 LOW FWD)	NTS
DE APPR.	RF	COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	09.09.30		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

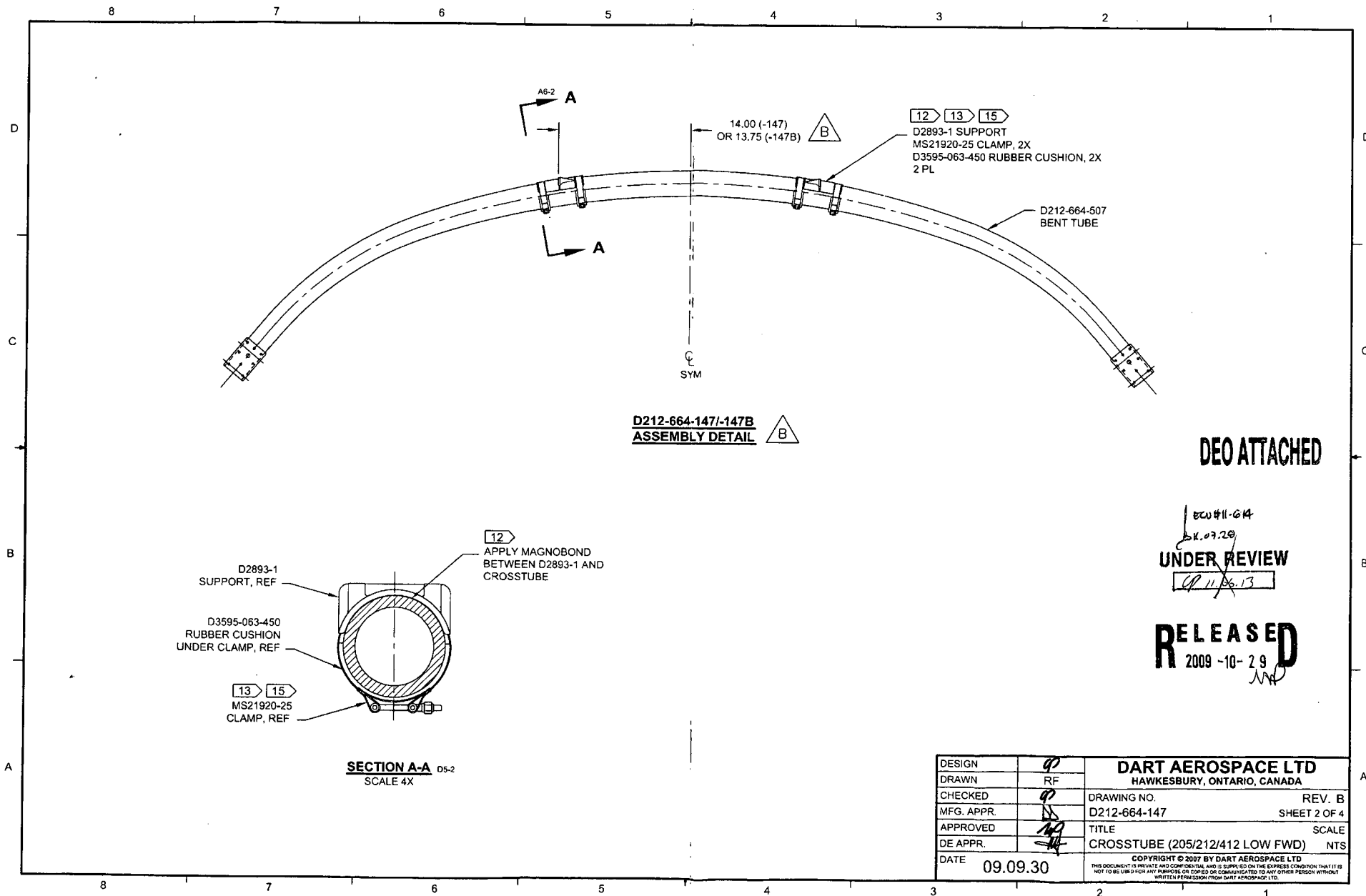
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

75880



DEO ATTACHED

ECU #11-614  
K.09.29  
UNDER REVIEW  
CP 11.06.13

RELEASED  
2009-10-29

DESIGN	9P	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	9P	DRAWING NO.	REV. E
MFG. APPR.	SS	D212-664-147	SHEET 2 OF 4
APPROVED	147	TITLE	SCALE
DE APPR.	147	CROSSTUBE (205/212/412 LOW FWD)	NTS
DATE	09.09.30	COPYRIGHT © 2007 BY DART AEROSPACE LTD	
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

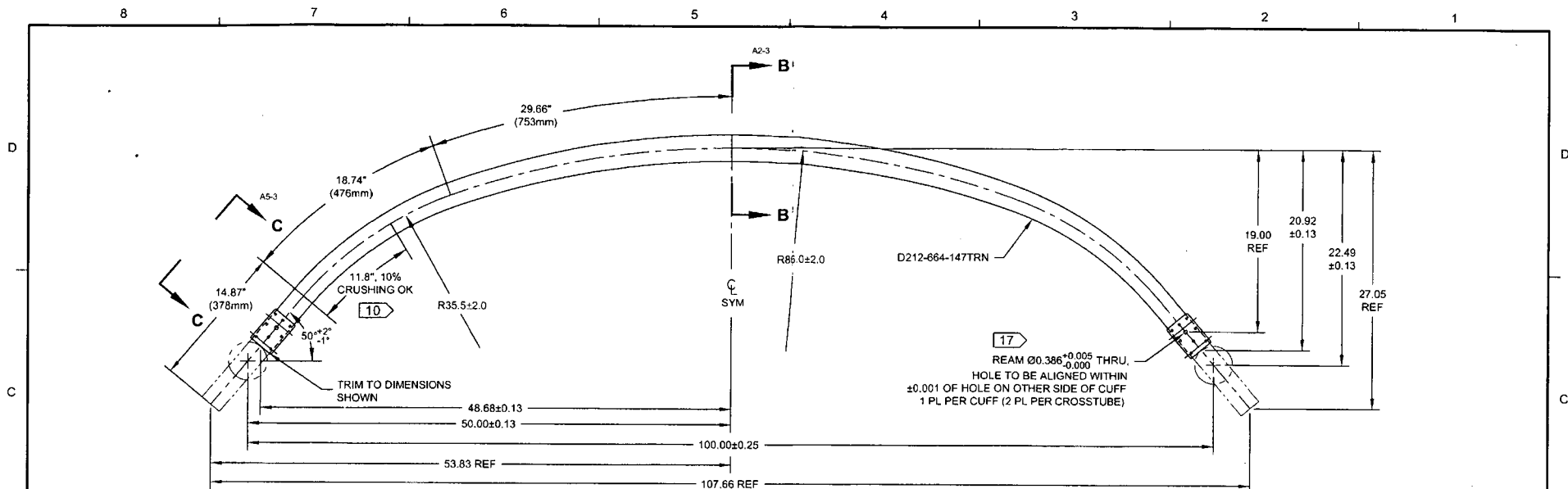
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

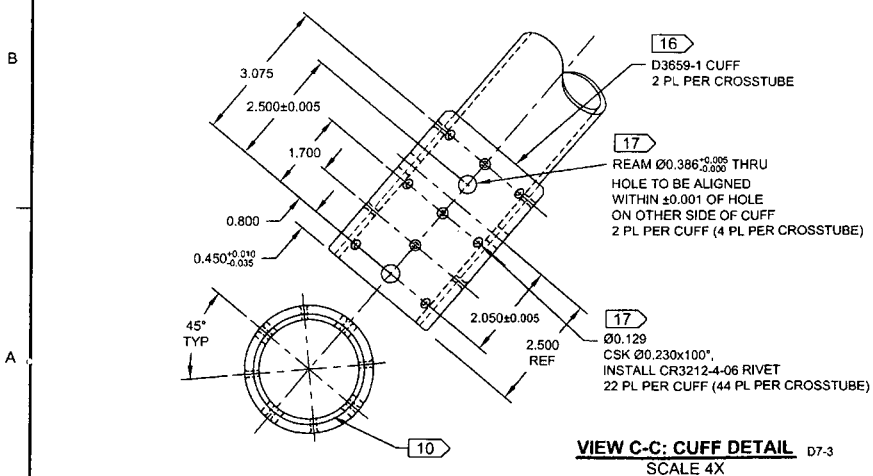


75880

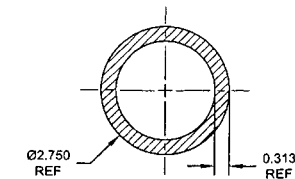


**D212-664-507**  
**BENDING AND DRILLING DETAIL** TO B

DEO ATTACHED



**VIEW C-C: CUFF DETAIL** D7-3  
 SCALE 4X



**SECTION B-B** D5-3  
 SCALE 4X

09.09.20  
 UNDER REVIEW  
 09.09.20

**RELEASED**  
 2009 -10- 2.9

DESIGN	RF	<b>DART AEROSPACE LTD</b>	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	RF	D212-664-147	SHEET 3 OF 4
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	CROSSTUBE (205/212/412 LOW FWD)	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

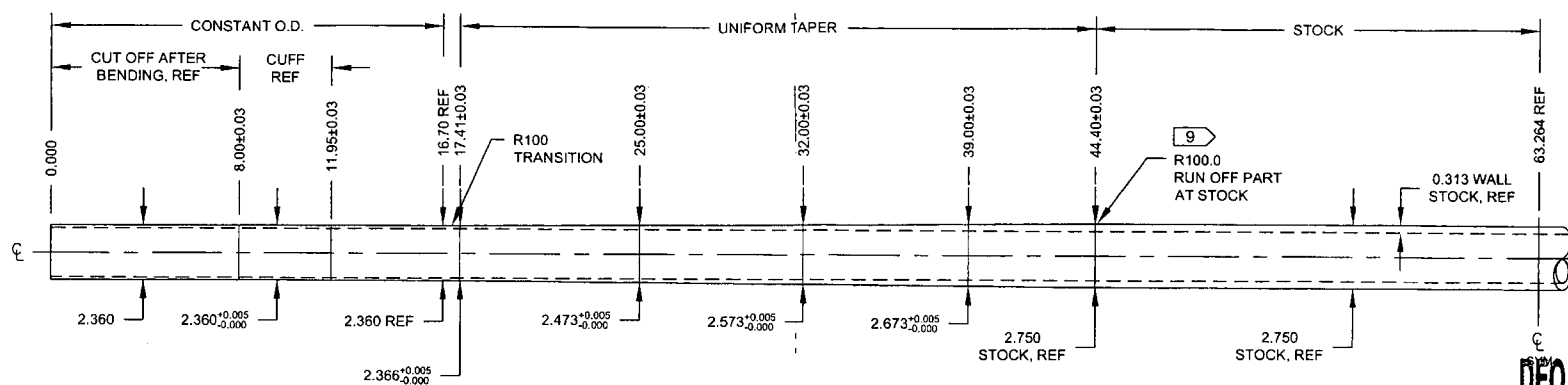
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

75880



**D212-664-147TRN**  
**TURNING DETAIL**

**DEO ATTACHED**

UCA #1-614  
 11.07.26

**UNDER REVIEW**

**RELEASED**  
 2009-10-29

DESIGN	RF	<b>DART AEROSPACE LTD</b>	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	RF	D212-664-147	SHEET 4 OF 4
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	CROSSTUBE (205/212/412 LOW FWD)	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

75880

DRAWING NO. D212-664-147	TITLE CROSSTUBE ASS'Y (205 LOW FWD)	REV. B	<b>DART AEROSPACE LTD ENGINEERING ORDER</b>		D.E.O. NO. D212-664-147-B-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>q</i>	CHECKED <i>ASS</i>	MFG. APPR. <i>VB</i>	APPROVED <i>W</i>	DE APPR. <i>H</i>			
DATE 11.07.15	DATE 11.07.20	DATE 11.07.21	DATE 11/07/21	DATE 11.07.21			

**PURPOSE:**

REPLACE MAGNOBOND WITH PROSEAL.

**CHANGE:**

IS:

Item	Qty -147	Qty -147B	Part Number	Description
9	A/R	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

WAS:

9	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
---	-----	-----	----------------	---

NOTE 12 & 15, SHEET 1 IS AMENDED AS FOLLOWS:

IS:

- 12) TO INSTALL D2893-1 SUPPORT: ABRABE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. **PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.**

WAS:

- 12) INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

**RELEASED**  
2011-07-28  
*W*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

## **DART SERVICE INSTRUCTION**

TO AMEND INSTALLATION INSTRUCTIONS IIN-D212-664 Rev. G OR LATER  
AND INSTRUCTIONS FOR CONTINUOUS AIRWORTHINESS ICA-D212-664 Rev. 8 OR LATER

REF. CANADIAN STC: SH01-9

REF. FAA STC: SR01298NY

REF. EASA STC: EASA.IM.R.S.01304

FOR D212-664-107 & D212-664-107B CROSSTUBES AT CHG 003, A HEAVIER WALL EXTRUSION  
WAS USED TO MANUFACTURE THE PARTS BECAUSE OF PROCUREMENT ISSUES WITH THE  
STANDARD MATERIAL. THE REVISED WEIGHT AND BALANCE IS GIVEN BELOW:

Aircraft	DART CROSSTUBE P/N	DESCRIPTION	WEIGHT	STA	MOMENT
205, 210, 212, 214, UH-1H	D212-664-107 D212-664-107B @ CHG 003	Standard Fwd	28.7 lb (13.0 kg)	71.5 in (1.82 m)	2052 in lb (23.7 m kg)

CANADA  
DEPARTMENT OF TRANSPORT  
AIRCRAFT CERTIFICATION  
BRANCH  
DAO # 01-O-01





APPROVED

BY:   
D. SHEPHERD (DE # 02)

DATE: 11.10.26

CERT. NO.: SH01-9

ISSUE NO.: 3

A	NEW ISSUE	CP	11.10.26
REV.	DESCRIPTION	BY	DATE
DESIGN		<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN			
CHECKED	ASJ	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9582	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE WEIGHT DEVIATION	NTS
DATE	11.10.26	COPYRIGHT © 2011 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	







ACUREN

## RAPPORT D'INSPECTION PAR RESSUAGE

P-11183

PAGE 1 DE 2

CLIENT

ATTENTION

ADRESSE

PROJET

ITEM(S) EXAMINÉ

DATE

N° TRAVAIL  
ACUREN

N° CLIENT PO/WO

SITE DE TRAVAIL

ACCEPTATION STD.

HEURE

AM ☒PM ☐

Dart Aerospace  
Mr. Linda Lacelle  
1270 Aberdeen St.  
Hakesbury, Ont, K6A 1K7

10 novembre 2011  
108-11-02399

1154247

Hakesbury, Ont.

ASTM 1417/AS1 038

DATE/REV. 2005

Cross-tubes inspection, and attaché. (Fluorescent)  
5x Cross-tubes and 1x Fork End and. 4x Clevis assembly

DESCRIPTION DES TRAVAUX

N° PROCÉDURE

LT-002

DATE/REV.

2007

N° TECHNIQUE

LT-002

DATE/REV.

2007

N° ITEMS

See on the bottom

MATÉRIEL

Aluminium

ÉPAISSEUR

DESCRIPTION

Inspection 100% (Fluorescent Penetrant)

## DÉTAILS DES INSPECTIONS

MÉTHODE :

☒ FLUORESCENT☐ VISIBLE☒ LAVABLE À L'EAU☐ MÉTHODE DISSOLVANT☐ PRÉ-ÉMULSIONNANT

MARQUE :

Magnaflux

LUM. NOIRE S/N

16480

☒ PUISS. > 1000 µ W/cm²☐ AMBIANT < 2 fc

PÉNÉTRANT :

Zyglo 2.67

TEMPS PÉNÉTRATION MIN.

10

MIN.

ÉQUIP. LUMIÈRE

☐ LAMP. POCHÉ☐ LAMP. CULASSE☐ PUISS. > 100 fc @ SURFACE

DISSOLVANT PÉNÉTRANT

H2O

TEMPS SÉCHAGE MIN.

&gt;10

MIN.

AUTRES

LABINO Mabele

RÉVÉLATEUR

SKD-52

TEMPS PÉNÉTRATION MIN.

10

MIN.

MÈTRE LUM. N/S

DATE CAL DUE

TYPE RÉVÉLATEUR

☒ NON AQUEUX☐ AQUEUX☐ SEC

## SURFACE INSPECTÉE

CONDITION SURFACE

☐ MEULÉE☐ SOUDÉE☐ MACHINÉE☐ GRANAILLÉE☒ MÉTAL PROPRE

TEMPÉRATURE SURFACE

☐ < - 4°C/ 20°F☐ - 4°C/ 20°F DE 10°C/50°F☒ 10°C/50°F DE 52°C/125°F☐ > 52°C/125°F

RÉSULTATS-

☐ MÉTRIQUE☐ IMPÉRIAL

See P-2

## Étendue des Services

L'entente selon laquelle le Groupe Acuren Inc. exécute les services ne concerne que les énoncés par écrit. En aucune circonstance ces services ne s'étendent au-delà de l'exécution des services demandés. Il est entendu que toutes les descriptions, les observations et les expressions d'opinions faites par Acuren reflètent les opinions ou les observations de l'entreprise fondées sur l'information et les hypothèses fournies par le propriétaire/opérateur, et elles ne constituent pas des déclarations ou des garanties ou ne peuvent être interprétées comme constituant. Le Groupe Acuren Inc. n'assume aucune des responsabilités du propriétaire/opérateur, et le propriétaire/opérateur conserve la responsabilité entière des décisions prises en matière d'ingénierie, de fabrication, de réparation et d'usage à partir de l'information ou des données fournies par Acuren en rapport avec les services décrits dans les présentes ne peuvent excéder le coût des services rendus.

## Norme de Diligence

Dans l'exécution des services, le Groupe Acuren Inc. applique le degré de diligence, le soin et la compétence normalement exercés dans des circonstances semblables par d'autres fournisseurs de ce type de services opérant dans la même localité ou dans une localité similaire. Aucune autre garantie, implicite ou explicite, n'est faite ou voulue par le Groupe Acuren Inc.

## SIGNATURES

REPRÉSENTANT

TECHNICIEN (SIGNATURE)

NOM (MOULÉ)

ONGC NIVEAU

SNT NIVEAU

ONGC NIVEAU

SNT NIVEAU

ONGC N° REG.

12205

ONGC N° REG.

FTJ#

RAPPORT

RÉVISÉ PAR:

NOM

INITIALES

BLANCHE - COPIE DU CLIENT

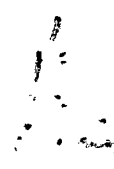
JAUNE - COPIE DU BUREAU

ROSE - COPIE DU TECHNICIEN

OR - COPIE DU BUREAU

PT Décembre 2005

H-3044





## RAPPORT D'ESSAI NON DESTRUCTIF

(SUITE)

RAPPORT #

A-11183

PAGE 2 DE 2

CLIENT	DART Aerospace	DATE	10 novembre	HEURE	AM	PM
ATTENTION	Mme Linda Lincelle	NO. TRAVAIL ACUREN	188-11-02394			
RÉSULTATS	<input type="checkbox"/> METRIQUE <input type="checkbox"/> IMPÉRIAL					

## Items (Crossstubes)

Work Order	#	75987	Item ID	D212-664 - 207 (Crossstube)	
"	"	* 75988	"	"	D212-664 - 207 (Crossstube)
"	"	* 75880	"	"	D212-664 - 107 (Crossstube)
"	"	* 74377	"	"	D412-664 - 203 (crossstube)
"	"	* 74376	"	"	D412-664 - 203 (crossstube)

## Items (Fork End, Clevis Assembly)

Work Order	#	73760	Item ID	D4136-1 (Fork End)	
x " "	"	* 73736	"	"	D4142-041 (Clevis Assembly Engine Mount str 171 LH)
x " "	"	* 73735	"	"	D4141-041 (Clevis Assembly Engine Mount str 155)
x " "	"	* 73737	"	"	D4142-042 (Clevis Assembly Engine Mount str 171 RH)

All the crossstubes<sup>(5)</sup>, Fork End<sup>(4)</sup> And clevis Assembly<sup>(4)</sup>  
Accepted  
No linear indication as found.

## Étendue des Services

L'entente selon laquelle le Groupe Acuren Inc. exécute les services ne concerne que les énoncés par écrit. En aucune circonstance ces services ne s'étendent au-delà de l'exécution des services demandés. Il est entendu que toutes les descriptions, les observations et les expressions d'opinions faites par Acuren reflètent les opinions ou les observations de l'entreprise fondées sur l'information et les hypothèses fournies par le propriétaire/opérateur, et elles ne constituent pas des déclarations ou des garanties ou ne peuvent être interprétées comme constituant. Le Groupe Acuren Inc. n'assume aucune des responsabilités du propriétaire/opérateur; et le propriétaire/opérateur conserve la responsabilité entière des décisions prises en matière d'ingénierie, de fabrication, de réparation et d'usage à partir de l'information ou des données fournies par Acuren en rapport avec les services décrits dans les présentes ne peuvent excéder le coût des services rendus.

## Norme de Diligence

Dans l'exécution des services, le Groupe Acuren Inc. applique le degré de diligence, le soin et la compétence normalement exercés dans des circonstances semblables par d'autres fournisseurs de ce type de services opérant dans la même localité ou dans une localité similaire. Aucune autre garantie, implicite ou explicite, n'est faite ou voulue par le Groupe Acuren Inc.

## SIGNATURES

REPRÉSENTANT  
À LA CLIENTÈLE

TECHNICIEN (SIGNATURE)

NAME (MOULÉE):

NIVEAU CGSB

NIVEAU SNT

No. ENREG. CGSB

12205

NIVEAU CGSB

NIVEAU SNT

No. ENREG. CGSB

2<sup>e</sup> TECHNICIEN

FTJ #:

RAPPORT  
REVISÉ PAR:

NOM

INITIALES



## 5.2 STANDARD GEAR CROSSTUBES

Item	-107	-207	-209	Part Number	Description
	X			D212-664-107	CROSSTUBE INSTALLATION, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD FWD
		X		D212-664-207	CROSSTUBE INSTALLATION, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD AFT
			X	D412-664-209	CROSSTUBE INSTALLATION, 412 STANDARD AFT
6	1			D212-664-147	CROSSTUBE ASSEMBLY, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD FWD
7		1		D212-664-247	CROSSTUBE ASSEMBLY, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD AFT
8			1	D412-664-249	CROSSTUBE ASSEMBLY, 412 STANDARD AFT
10	2			* D2893-1	SUPPORT
11	4			* D3595-063-450	RUBBER CUSHION
12	4			* MS21920-25	CLAMP (OR MS21042-26)
13	4			AN6-35A	BOLT
14	4			AN6-36A	BOLT
15	6			MS21042L6	NUT (OR MS21042-6)
16	18			AN960JD616	WASHER
20		2		* D2940-1	SUPPORT
21		4		* D3595-063-530	RUBBER CUSHION
22		4		* MS21920-28	CLAMP (OR MS21042-30)
23		4		AN6-40A	BOLT
24		2		AN6-41A	BOLT
25		6		MS21042L6	NUT (OR MS21042-6)
26		18		AN960JD616	WASHER
30			1	* D2896-1	SUPPORT
32			2	* D3595-063-570	RUBBER CUSHION
33			4	* MS21920-28	CLAMP
34			2	* MS21920-30	CLAMP (OR MS21042-32)
35			4	AN6-40A	BOLT
36			2	AN6-41A	BOLT
37			6	MS21042L6	NUT (OR MS21042-6)
38			18	AN960JD616	WASHER
39			2	* D3189-1	CHAFING SHIELD
45	2			* D3659-1	CUFF
46		2	2	* D3660-1	CUFF
47	44	44		* CR3212-4-06	RIVET (M7885/3-4-06)
48			44	* CR3212-4-07	RIVET (M7885/3-4-07)
50	1	1		D3428-1	PLACARD

\*REFERENCE ONLY. PARTS ARE INCLUDED IN D212-664-147/-247 OR D412-664-249 ASSEMBLIES ABOVE  
 NOTE: KITS INCLUDE EXTRA HARDWARE FOR COMPATIBILITY WITH BOTH DART AND BELL/AAI  
 SKIDTUBES.



Part Number D212-664-107  
Description CROSSBEE LOW FWD (204/205/212)

Part Number D212-664-107

Description CROSSTIE LOW FWD (204/205/212)

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